Angeles Marin Batana

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EDUCATION

Ball State University **May 2025**
B.S Computer Science; B.S Spanish; Minor in Sociology *Muncie, IN*

- GPA: 3.5/4.0
- Honors: Departmental Honors in Computer Science; Dean's List
- Concentrations: Data Analytics and Machine Learning; Language and Culture Studies

WORK EXPERIENCE

Artificial Intelligence and Cybersecurity Research Assistant **Oct. 2024 – Present**
Ball State University *Muncie, IN*

- Collaborating on a peer-reviewed academic research paper focused on automating security requirements elicitation through Ai-Driven frameworks using LLM, machine learning, and advanced NLP techniques.
- Implementing and currently refining Retrieval-Augmented-Generation (RAG) pipelines in Python using the OpenAI API and ChromaDB to help mitigate challenges of traditional LLM approaches
- Assisted in developing an LLM-based framework that identifies critical system assets (like databases) from technical documentation, maps assets to threats (using sources like CVE), and automatically generating tailored security requirements and misuse cases.
- Conducted literature reviews on transformer-based NLP models (e.g., BERT, GPT-4) and their role in threat detection, requirement formulation, and compliance mapping.
- Designed visualizations, tables, and structured use-case outputs to effectively communicate asset-threat mappings and security requirements to cross-functional teams.
- Designed visualizations, tables to effectively communicate with faculty and fellow undergraduate researchers in weekly research meetings to iterate on methodology, data quality, and model performance
- **Tech Stack**: Python · OpenAI API (GPT-4) · ChromaDB · Transformer Models (BERT, RAG) · CVE Datasets · Pandas · LangChain · Markdown/LaTeX

Big Data Analytics and Machine Learning Researcher **May. 2024 – Jul. 2024**
North Dakota State University *Fargo, ND; Santiago, Chile*

- Selected for an NSF-funded REU program to research scalable machine learning solutions using swarm intelligence algorithms and parallel computing
- Implemented and benchmarked two Spark-enabled Bat Algorithm (BA) variants to optimize classification tasks by distributing either input data or swarm particles across cores.
- Evaluated performance across 7 core configurations (2–64 cores) and 10 dataset sizes, using speedup and scaleup metrics to analyze computational efficiency.
- Applied Apache Spark for high-performance distributed processing, showcasing diminishing returns and optimization bottlenecks in large-core environments.
- Presented research findings at Universidad de Chile – Escuela de Ingeniería y Ciencias, highlighting scalability strategies for real-world machine learning applications.
- Gained advanced experience in parallel computing**,** metaheuristic optimization**,** Apache Spark**,** and large-scale data processing.
- **Tech Stack:** Python · Apache Spark · Jupyter Notebooks · Git · RDDs · Matplotlib · NumPy · Pandas

UX/ UI Researcher | Junior Project Manager **Sept. 2023 – May 2025**
The Digital Corps | Ball State University *Muncie, IN*

- Led and collaborated with cross-functional teams and university-wide clients to deliver **user-centered UX/UI solutions** supporting digital transformation initiatives.

- Managed and executed 10+ projects with **100% on-time delivery**, leveraging clear communication, strategic planning, and iterative feedback.
- Conducted **user interviews**, created **wireframes**, mapped **user journeys**, and designed **complex user flows** to enhance usability and meet client needs.
- Presented design proposals and creative solutions to stakeholders, demonstrating strong communication skills and an ability to align design decisions with project goals.
- **Technologies**: Figma · Miro · HTML/CSS · Microsoft Office Suite · Slack · Whimsical

IT Operations Intern **May 2023 – Aug 2023**
Magna International *Muncie, IN*

- Troubleshot and resolved hardware and software issues for 100+ end-users, ensuring 98% customer satisfaction and minimizing downtime across the company.
- Configured and maintained computers running Windows 10, contributing to efficient IT operations and ensuring systems were fully functional.
- Enhanced data analytics capabilities by leveraging QuickBase and PowerBI to analyze and visualize company-wide data, leading to 15% improvement in reporting efficiency.
- Provided technical support by troubleshooting, hardware, and software, and configuring computers ensuring minimal downtime.

Pharmaceutical Chemistry Research Intern **Jun 2021 – Aug 2021**
Eli Lilly & Company *Indianapolis, IN*

- Conducted research in the **Synthetic Molecule Design and Development (SMDD)** department, focusing on enhancing the **oral delivery of polypeptides** through novel dosage forms.
- Supported formulation design by analyzing the **bioavailability and effectiveness** of various drug delivery strategies for synthetic molecules.
- Performed literature reviews on oral peptide delivery, synthesized key findings, and contributed to internal knowledge for ongoing development.
- Collaborated with researchers, employees, and fellow interns to gain cross-functional insight into pharmaceutical development processes.
- Delivered a final presentation summarizing research outcomes, demonstrating strong scientific communication and data interpretation skills.

Clinical Research Intern **Jul 2020 – Aug 2020**
Indiana University Purdue University Indianapolis *Virtual*

- Conducted research on anti-VEGF therapies and its implications on diabetic retinopathy treatment with an emphasis on patient care and efficacy with the Indiana University School of Medicine
- Contributed to data analysis with a focus on clinical research methodologies through active collaboration with peers at the national level.
- Presented findings in an end of program presentation, demonstrating my expertise in internal medicine, ophthalmology, and literature reviews.

TECHNOLOGIES & CERTIFICATIONS

- **Technologies:**
  - **Programming Languages**: Python · Java · JavaScript · TypeScript · Swift · Ruby · C · HTML · CSS
  - **AI/ Data Science & ML Tools:** OpenAI API · LangChain · NotebookLM · ChromaDB · TensorFlow · PyTorch · Scikit-learn · Apache Spark · Pandas · NumPy · Jupyter · R · Power BI · Tableau
  - **Database & Backend:** PostgreSQL · MySQL · Firebase · Amazon s3 · QuickBase
  - **Web & App Development:** React Native · Expo · Axios · Docker · GitHub · Insomnia Rest API Client · IntelliJ IDEA · VS Code

- **Certifications:**
  - DataCamp: Understanding Machine Learning, Understanding Artificial Intelligence, Responsible AI Practices, Large Language Models Concepts, Introduction to R, Introduction to ChatGPT, AI Ethics, Generative AI Concepts, Explainable Artificial Intelligence (XAI) Concepts, AI Security and Risk Management
  - CITI Program: Physical Science Responsible Conduct of Research, Biomedical Responsible Conduct of Research, Social and Behavioral Responsible Conduct of Research, IUEHS Biosafety Training, NIH Recombinant DNA Guidelines, Human Gene Transfer
  - Indiana University: HIPPA Privacy & Security, An introduction to Compliance at IU, HIPPA & Mobile Devices,